

# Cable Jointer

## Electrical Power System

(Job Role)

Qualification Pack: Ref. ID. PSS/Q1002

Sector: Power

Textbook for Class XI

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विद्यया ऽ मृतमश्नुते



एन सी ई आर टी  
NCERT

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## FOREWORD

The National Curriculum Framework–2005 (NCF–2005) recommends bringing work and education into the domain of the curricular, infusing it in all areas of learning while giving it an identity of its own at relevant stages. It explains that work transforms knowledge into experience and generates important personal and social values such as self-reliance, creativity and cooperation. Through work one learns to find one's place in the society. It is an educational activity with an inherent potential for inclusion. Therefore, an experience of involvement in productive work in an educational setting will make one appreciate the worth of social life and what is valued and appreciated in society. Work involves interaction with material or other people (mostly both), thus creating a deeper comprehension and increased practical knowledge of natural substances and social relationships.

Through work and education, school knowledge can be easily linked to learners' life outside the school. This also makes a departure from the legacy of bookish learning and bridges the gap between the school, home, community and the workplace. The NCF–2005 also emphasises on Vocational Education and Training (VET) for all those children who wish to acquire additional skills and/or seek livelihood through vocational education after either discontinuing or completing their school education. VET is expected to provide a 'preferred and dignified' choice rather than a terminal or 'last-resort' option.

As a follow-up of this, NCERT has attempted to infuse work across the subject areas and also contributed in the development of the National Skill Qualification Framework (NSQF) for the country, which was notified on 27 December 2013. It is a quality assurance framework that organises all qualifications according to levels of knowledge, skills and attitude. These levels, graded from one to ten, are defined in terms of learning outcomes, which the learner must possess regardless of whether they are obtained through formal, non-formal or informal learning. The NSQF sets common principles and guidelines for a nationally recognised qualification system covering Schools, Vocational Education and Training Institutions, Technical Education Institutions, Colleges and Universities.

It is under this backdrop that Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE), Bhopal, a constituent of NCERT has developed learning outcomes based modular curricula for the vocational subjects from Classes IX to XII. This has been developed under the Centrally Sponsored Scheme of Vocationalisation of Secondary and Higher Secondary Education of the Ministry of Human Resource Development.

This textbook has been developed as per the learning outcomes based curriculum, keeping in view the National Occupational Standards (NOS) for the job role and to promote experiential learning related to the vocation. This will enable the students to acquire necessary skills, knowledge and attitude.

I acknowledge the contribution of the development team, reviewers and all the institutions and organisations, which have supported in the development of this textbook.

NCERT would welcome suggestions from students, teachers and parents, which would help us to further improve the quality of the material in subsequent editions.

New Delhi  
June 2018

HRUSHIKESH SENAPATY  
*Director*  
National Council of Educational  
Research and Training

## ABOUT THE TEXTBOOK

Power is one of the most critical components of infrastructure and crucial for the welfare of the nation. The power sector plays a vital role in the economic growth and human development of any country. Electricity consumption is one of the most important indices for measuring the development level of a nation.

India has the fifth largest power generation capacity in the world. The country ranks third globally in terms of electricity production. As per the 13th Five Year Plan, India is targeting a total of 100GW of power capacity addition by 2022. In order to meet the increasing demand for electricity in the country, massive addition to the installed generating capacity is required for efficient and effective production of goods and services along with skilled manpower.

A Cable Jointer manages the installation, repair and maintenance of electrical cables and fixtures and power line in housing, commercial and institutional setups. The textbook for the job role of 'Cable Jointer' has been developed to impart knowledge and skills through hands-on learning experience, which forms a part of the experiential learning. Experiential learning focusses on the learning process for the individual. Therefore, the learning activities are student-centred rather than teacher-centred.

This textbook has been developed with the contribution of the expertise from the subject and industry experts and academicians for making it a useful and inspiring teaching-learning resource material for the students of vocational education. Adequate care has been taken to align the content of the textbook with the National Occupational Standards (NOSs) for the job role so that the students acquire necessary knowledge and skills as per the performance criteria mentioned in the respective NOSs of the Qualification Pack (QP). The textbook has been reviewed by experts so as to make sure that the content is not only aligned with the NOSs, but is also of good quality.

The NOSs for the job role of Cable Jointer — Electrical Power System covered through this textbook are as follows:

1. PSS/N1002 Installing, repairing and joining cables
2. PSS/N2001 Use basic health and safety practices at the workplace
3. PSS/N1336 Work effectively with others

Unit 1 of the textbook discusses the basics of electricity. Unit 2 focusses on the various tools and equipment used by a cable jointer and the techniques for handling these. Unit 3 gives an insight into the components of electrical wiring and accessories. Unit 4 explains the procedure of installing cables and Unit 5 discusses about repair and maintenance of cable joints.

I hope this textbook will be useful for students and teachers who will opt for this job role. Any further suggestions for improving this textbook are always welcome.

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## *Do You Know*

According to the 86<sup>th</sup> Constitutional Amendment Act, 2002, free and compulsory education for all children in 6-14 year age group is now a Fundamental Right under Article 21-A of the Constitution.

**EDUCATION IS NEITHER A  
PRIVILEGE NOR FAVOUR BUT A  
BASIC HUMAN RIGHT TO  
WHICH ALL GIRLS AND WOMEN  
ARE ENTITLED**

*Give Girls  
Their Chance !*

